The Bayou Companies, LLC
The Bayou Companies, LLC - New Iberia Facility
New Iberia, Iberia Parish, Louisiana
Agency Interest Number: 5688

Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

The Bayou Companies, LLC
The Bayou Companies, LLC - New Iberia Facility
New Iberia, Iberia Parish, Louisiana
Agency Interest Number: 5688
Activity Number: PER20060001
Proposed Permit Number: 1260-00102-V0

I. APPLICANT

Company:
The Bayou Companies, LLC - New Iberia Facility
5200 Curtis Ln
New Iberia, Louisiana 70560

Facility:
The Bayou Companies, LLC
5200 Curtis Ln
New Iberia, Iberia Parish, Louisiana
Approximate UTM coordinates are 611.569 kilometers East and 3313.575 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS

Bayou Companies, LLC (TBC) owns and operates multiple pipe coating processes at the facility located in the Port of Iberia Industrial Complex. The facility coats pipe using three main process: Outer Diameter (OD), Inner Diameter (ID), and Concrete.

OD Plant 1

The OD fusion bonding process design in OD Plant 1 will be modified. Some of the process equipment will be moved to the new OD Plant 3. The process still has an initial pipe shot blast step. The blast machine (Wheelabrator #1) dust collector emits to the atmosphere through an exhaust vent. The next step in the pipe coating process involves the first pipe preheat step using a 2 MM BTU/hr combustion heater. Both of these steps will remain unaltered.

This heater and the remaining natural gas combustion sources discharge into the production building area and are vented by convection to the atmosphere as fugitive sources through the double roof of the production building.

The existing phosphoric acid wash system for the pipes in OD Plant 1 will be moved to OD Plant 3. The second 2 MM BTU/hr combustion preheater will remain in OD Plant 1 and supports the second shot blast machine.

This blast machine (Wheelabrator #2) dust collector emits to the atmosphere through an exhaust vent. Pipes being processed can then move consecutively through four, 4 MM BTU/hr, combustion heaters. The emissions from these heaters enter the atmosphere through the double roof of the production building and are considered fugitive emissions.

The fusion bonding powder application system in OD Plant 1 will be moved to OD Plant 3. The pipe water quench step equipment and the cooling tower used for heat removal from the recycled quench water will also be moved to OD Plant 3.

Another emission to the atmosphere periodically occurs through a 2,190 CFM dust collector when the pipe connection equipment is blown off.

The pipe heating and shot blast operation can occur up to 16 hours per day, 7 days per week, and 52 weeks per year.

OD Plant 2

The pipe moving equipment will allow either the Thermal Sprayed Aluminum (TSA) process or the OD fusion bonding process to operate singularly but not at the same time.

The first step in the process is shot blasting the OD to remove mill scale from the outside of the pipes. The blasting operation system recaptures the shot and reuses it. Most of the shot drops off the pipes but some enters the pipe interior. The shot and disintegrated shot (shot dust) that drop off are recycled through equipment that has a shot dust collector. The shot and related dust in the pipe interior are suctioned out of the pipe interior in a subsequent step. Additional shot material is added to the operation to maintain process inventory and replace the shot dust formed.

The blast machine (Wheelabrator #1) dust collector emits to the atmosphere through an exhaust vent. The next step in the pipe coating process involves the pipe preheat step using a 2.25 MM BTU/hr combustion heater.

This heater and the remaining natural gas combustion sources discharge into the production building area and are vented by convection to the atmosphere as

fugitive sources through the double roof of the production building. The emissions are considered fugitive and listed as source 94-16.

The next step in the coating process involves another pipe shot blast (Wheelabrator #2) step. The blast machine dust collector emits to the atmosphere through an exhaust vent source 94-7. The pipes are then suctioned inside to remove excess dust. The suction process is being ducted to the dust collector whose vent is source 04-1. This dust collector will be used during both OD pipe processing and TSA production. The old system that has the point source numbered 94-8 and previously used has been deleted.

The next step is a phosphoric acid wash of the pipes. The preheated pipes move through a washer system in which a 10% phosphoric acid solution is circulated. Two 6000 gallon phosphoric acid solution tanks that are vented through a single vent are used for spent acid wash storage. Solution makeup from totes of phosphoric acid occurs in the wash system as necessary.

The pipes then move consecutively through five 9 MM BTU/hr combustion heaters.

The hot pipes are sent into and through two bonding powder application booths. One or both can be operated at the same time. Powder rates and their ratios will vary but will not sum to over 48 pounds per minute. The two powder systems have their own powder collection and recycle system. Each system has a 15,000 CFM discharge from the coating dust collector, sources 94-10A and 07-3. For permitting purposes, a 50/50 split for coating application will be assumed.

A pipe quench step then occurs and the coated pipes are inventoried for sales and shipment. The cooling tower used for heat removal from the recycled quench water is source 94-11.

The cooled pipes are then sent through the outbound suction dust system to remove internal dust before being placed into inventory. This system has a 2,190 CFM discharge from the dust collector source 94-10B.

The area fugitives inside the Plant 2 building, source 94-16, are comprised of one 2.25 MM BTU/hr pre-heater, four 9 MM BTU/hr heaters, an acid wash system, and water quench system. The acid wash system and water quench system emissions are deminimus.

Coating production occurs up to 16 hours per day, 7 days per week, and 52 weeks per year.

Thermal Sprayed Aluminum (TSA) Process:

This unique process coats the outside of rotating pipe joints as they travel through Plant 2. The process uses induction coils instead of combustion heaters to dry the outside of the pipes. No emissions from this step occur. The next step uses an existing blasting machine and associated dust collection equipment, source 94-7. The pipe is then passed through a new booth where thermally vaporized aluminum wire is sprayed onto the horizontally moving rotating pipe. A new 13,000 CFM abatement system will be installed and consists of a cyclone and dust collector. The vent from this system is emission source 04-1. The pipe is then moved along and finally spray coated. Emissions from the coating operation are labeled as emission source number 04-2. Cleanup fugitives are labeled emission source 04-3.

Twenty pipe joints per day can be sprayed. TSA production occurs up to 16 hours per day, 7 days per week, and 13 weeks per year.

OD Plant 3

Initially the pipes move through an induction preheater.

Next in this new OD fusion bonding process are double shot blasting steps. The shot blasting on the OD removes mill scale from the outside of the pipes. The blasting operation system recaptures the shot and reuses it. Most of the shot drops off the pipes. However, a small portion enters the pipe interior. The shot and disintegrated shot (shot dust) that drop off are recycled through equipment that has a shot dust collector. The shot and related dust in the pipe interior are suctioned out of the pipe interior in a subsequent step. Additional shot material is added to the operation to maintain process inventory and replace the shot dust formed and filtered out of the system.

These next two steps use two Wheelabrators in series and are connected to one common dust collector. The dust collector emits to the atmosphere through source 06-1.

The heated and OD blasted pipes are then ID suctioned to remove internal dust with a suction dust collection system. This system dust collector emits to the atmosphere through source 06-2.

The next step in the OD pipe coating process involves a phosphoric acid wash. The preheated and blasted pipes move through a washer system where 10% phosphoric acid solution is circulated. The existing 6,000 gallon phosphoric acid solution tank, source 94-2, from Plant 1 will be moved and used for spent acid wash storage. Solution makeup from totes of phosphoric acid occurs as necessary.

The pipes then move consecutively through five induction heaters in series.

The hot pipes are then sent into and through two bonding powder application booths. One or both can be operated at the same time. Powder rates and their ratios will vary but will not sum to over 48 pounds per minute. Each of the two powder coating systems have their own overspray powder collection and recycle system. Each system has a 15,000 CFM discharge from the coating dust collector. For permitting purposes, a 50/50 split for coating application will be assumed.

A pipe quench step then occurs and the coated pipes are inventoried for sales and shipment. There will be a new 400 GPM cooling tower constructed in Plant 3. The two Plant 1 cooling towers will be moved and also used in Plant 3. Because of their characteristics, all three cooling tower discharges will be called source 94-5.

Coating production occurs 24 hours per day, 7 days per week, and 52 weeks per year.

Fuel Terminal

The fuel terminal consists of six tanks. The largest is an 11,000 gallon diesel tank source 94-12. There is another smaller diesel tank that is only 1,000 gallons, source 94-14. The other tank is a 3,000 gallon gasoline tank that is source 94-13.

The remaining three tank sizes are below the Federal SPCC plan requirements of 550 gallons and have deminimus emissions. They are a 500 gallon used oil tank, a 150 gallon motor oil tank, and a 150 gallon hydraulic oil tank.

No volatile organic compounds or toxic compounds are emitted from the OD plants from the fusion bonding coating operation. Some VOCs are emitted from the fuel storage tanks on the site.

ID Plant

TBC also operates and inside diameter (ID) coating facility. This process includes the inside surface of various sized transmission pipes. The coating protects the inside of the pipe during pipe inventory periods. The ID coating also reduces friction and pumping costs after installation. The operation includes four basic steps.

Step one thru three have duplicate trains for pipe processing. The first step involves drying the inside diameter of the damp or wet pipes. A 1 MM BTU/hr natural gas air drying system is used for this step. The duplicate emission source numbers are 94-17 and 06-3.

The second step in the ID plant includes a blasting process (blast wand) that traverses the inside of each pipe. The shot blast material recirculates in this

process. The shot material is collected in a knock out tank on the far end of the process and feeds a return conveyor system that carries the recycle shot material back to the initial end of the process.

The shot material returned to the initial end of the process is screw conveyed back into the feed hopper. The feed hopper has a filter system that vents into the building. Additional shot material is added to the operation to maintain process inventory and replace the shot dust formed from disintegrated shot material.

That amount of shot material is therefore degraded to shot dust. The shot dust formed is pulled over from the knock out tank into the shot dust collector where it is filtered out of the system. The abated shot dust is collected in drums under the dust collector and disposed offsite.

Shot dust emissions occur and are controlled using dust collector filters and blast material recycle step with a hopper vent. The recycle step hoppers have intermediate discharges.

The prepared pipes are then coated (step three) using special equipment and commercial epoxy and paint formulations.

The VOCs on the coated pipes are then dried (step four) using hot air generated at 4 MM BTU/hr natural gas heater.

Equipment cleanup activity using a chemical mixture produces a fugitive source. A usage rate of 1 drum of cleanup mixture per 3,000 gallons of coating has been estimated based on purchase and production records.

The dried finished pipes are then inventoried for further processing or sales. Production occurs up to 24 hours per day, 7 days per week, and 52 weeks per year.

Concrete Coating Operation

Corrosion coated pipe is fed to the concrete operation on padded steel rails. The rails are equipped with pipe stoppers and lowering-in arms that set the pipe gently on to the incoming conveyor. A two-part adhesive is applied to the pipe as it is conveyed into the coating application area. Application of the previously mixed concrete is performed by wrap-on for all diameters of pipe. The layer of concrete is applied with the wrap on method in thickness from 1.0 to 5.5 inches. A plastic outer wrap is mechanically applied over the topcoat. As the coated pipe moves beyond the application area a "transvering saw" detects the ends of each coated pipe and cuts through the concrete coating reinforcing wire between the pipes allowing the coated pipe to "breakaway" from the pipe being coated.

The outgoing coated pipe is supported and conveyed by six-fixed belt heads. The coated pipe is lifted from the belt heads by a front-end loader and shifted to the cleaning station where ends are cleaned and the pipe weighed. The finished coated pipe is then taken to the stockpile area and allowed to cure.

Air emission sources from the concrete mixing are addressed in the AP-42 chapter 11.12. There are sand and iron ore transfer fugitive emissions. Cement is unloaded into an elevated silo with a bag house filter system. There are also sand and iron ore weigh hopper loading fugitives. Emissions from the concrete mixer loading operation are abated using a bag house filter system. Emission rates from these sources are estimated using AP-42 factors and associated throughputs.

Production occurs up to 10 hours per day, 5 days per week, and 52 weeks per year.

Plant Road Dust

TBC operations include pipe movement using big forklifts within the plant. This movement occurs to place pipe in inventory, remove and carry it to the operations and replace the pipe back into inventory. The same forklifts are also used to assist in pipe loading and unloading operations.

Some road dust is produced during operations and is estimated using AP-42 factors and data estimates from the plant. These road dust fugitives are controlled using canal water and sprayed via truck. This fugitive emission is numbered 98-3.

III. PROPOSED PROJECT/PERMIT INFORMATION

Application

A permit application was submitted on September 30, 2006 requesting a Part 70 operating permit for the Bayou Companies, LLC, New Iberia Facility, and additional information received April 25, 2007.

Project

With this modification, Bayou Companies, LLC proposes the following:

- Increase the amount of coating consumed during the IDC operation.
- Addition of Thermal Sprayed Alumium (TSA) operation to OD Plant 2.
- Construct a new OD Plant 3 using some equipment from OD Plant 1.
- Change the facility from minor source status to major source.

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Proposed Permit

Permit 1260-00102-V0 will be the initial Part 70 operating permit for the Bayou Companies, LLC, New Iberia Facility.

Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	17.13	22.34	+5.21
SO_2	0.13	0.20	+0.07
NO_X	17.43	21.16	+3.73
CO	3.63	17.78	+14.15
VOC	19.23	178.10	+158.87

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Xylene	6.01	48.77	+42.76
Formaldehyde		0.72	+0.72
Ethyl Benzene	0.44	11.45	+11.01
Methyl Ethyl Ketone		0.23	+0.23
Toluene	1.29	1.14	-0.15
Methanol		0.03	+0.03
Total VOC TAPs	7.74	62.34	+54.60
Non-VOC TAP Zinc Phosphate	-	35.86	+35.86
Total TAPs	7.74	98.20	+90.46

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

Applicability and Exemptions of Selected Subject Items

None

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Prevention of Significant Deterioration/Nonattainment Review

The current facility does not have the potential to meet the definition of a Major Stationary Source with respect to the Prevention of Significant Deterioration (PSD) regulations.

MACT Requirements

For each existing general use coating affected source, limit organic HAP emissions to no more than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period, in accordance with 40 CFR 63 Subpart MMMM.

Air Quality Analysis

None

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

A permit shield was not requested.

VI. PERIODIC MONITORING

The following monitoring requirements are taken from 40 CFR 63 Subpart MMMM Emission rate without add-on controls option. Demonstrate that, based on the coatings, thinners and/or other additives, and cleaning materials used in the coating operation(s), the organic HAP emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890, calculated as a rolling 12-month emission rate and determined on a monthly basis. You must meet all the requirements of §§63.3950, 63.3951, and 63.3952 to demonstrate compliance with the emission limit using this option.

Baghouses (including gaskets): Equipment/operational data monitored by technically sound method semiannually or whenever visible emission checks indicate maintenance may be necessary. Change elements as necessary.

Filter vents: Visible emissions monitored by visual inspection/determination daily. If visible emissions are observed, restore operation of the filter to its normal or usual manner of operation as expeditiously as practicable, but at a minimum within three working days, in accordance with good air pollution control practices for minimizing emissions.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_X) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: $\geq$ 10 tons per year of any toxic air pollutant; $\geq$ 25 tons of total toxic air pollutants; and $\geq$ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.